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BLM ALASKA
FRONTIERS
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News about BLM's National System of Public Lands in Alaska

BLM Alaska

What's Inside...

3 First ARRA project completed

4 Red Devil Mine Projects

5 Refuge from the Storm

Improving Summit Trail

6 New Field Manager

Connecting to the Community

8 Working From the Heart

9 Job Corps Students Lend a Hand

10 Alaska State Fair Exhibit

Moose–More than a Heliport Hazard

11 Climate Change Legislation in the 19th Century?

13 Resolved: Unauthorized Use Cases

14 The Fiery Season of 2009

15 National Public Lands Day

16 National Landscape Conservation System 10th Anniversary

17 Frontiers Flashes

19 Subscription form

Back Cover

From the Managing Editor

Credits

Raven Bluff: An Archaeologist's Dream

Craig McCaa

Excavating a pit at the Raven Bluff site on the Kivalina River. Tarps protect the surrounding tundra until the pits are refilled.

The Mother Lode. The Big Kahuna. An Alaska archaeologist's dream site.

When BLM Central Yukon Field Office archaeologist Bill Hedman ponders such a find, his thoughts don't stop at a treasure trove of artifacts covering thousands of years of human history. His ideal site would also have thick soil deposition to help differentiate artifacts from different time periods. There'd be lots of bone, too, or other organic material for dating the artifacts. Oh, and add a nice breeze to keep the swarms of arctic mosquitoes down.

It's a long list, but Hedman thinks he's found just such a site next to the Kivalina River, a 60-mile-long river that begins in the DeLong Mountains of the western Brooks Range and flows southwest to Kivalina Lagoon in the Chukchi Sea. The site is approximately 100 air miles north of Kotzebue.

Hedman has christened the new site "Raven Bluff." According to Hedman, only a handful of sites this old have been found in northern Alaska. He's hoping Raven Bluff's unusually long record of human use will shed new light on the earliest inhabitants of North America.

A Deep Site

Hedman and a colleague discovered Raven Bluff in 2007 during the first year of a three-year archaeological survey and testing project centered on the Kivalina River. One evening a low, grassy knoll caught his attention.

— *continued on page 2*

Alaska

Dream Dig Site

— *continued from page 1*

"It looked really prominent and isolated out here, surrounded by mostly flat, mundane tundra with the river right up against it," he recalls.

"We got over there, climbed up onto the bluff, and just started finding [stone] flakes. They were everywhere!"

A few quick pits revealed that, unlike the other sites they'd seen, artifacts were not confined to the surface. Many more appeared to lay buried in the soil.

Hedman returned with more help in 2008. He and his crew dug five or six pits that summer. In all but one location, they were stopped close to the surface by frozen ground. At one pit, however, they dug deeper than a meter. The bottom of that pit contained abundant bone and tool-making debris in soil that was eventually dated at approximately 10,000 years old.

The type and age of artifacts in that single pit already pointed to a significant archeological find. But was the Raven Bluff site confined to a small area, or was there more to find elsewhere on the knoll?

To find out, Hedman returned to the site with another crew for two weeks last summer. Due to the warmer weather, the crew was able to dig deeper at a number of carefully surveyed locations across the knoll.

Craig McCaa

Aerial view of the Raven Bluff camp on the Kivalina River and, directly above it, the knoll that initially caught Bill Hedman's attention.

Layer by Layer

Standing next to a meter-deep pit on the knoll's crest, Hedman gazes down at the Kivalina River, which rushes out of the rugged DeLong Mountains behind him and flows past this year's camp, a jumble of yellow tents on a gravel bar, before braiding across a vast, tundra-covered plain.

"What we think is going on here is that we have a landform that's oriented perpendicular to the prevailing summer winds," Hedman says. "Summer is the season in which soils are deposited by wind. So we've got wind actually carrying [river] sediment up over the edge of this bluff and laying it down in different places across the landform."

"You've got material being buried quickly, so that when the next person comes along and makes a tool, there's already three centimeters of soil on the ground that they're depositing their tools on."

On the face of it, soil deposition wouldn't seem to hold much allure for archaeologists eager to find artifacts. In fact, digging it out of the way requires tiring shovel work. However, if the Raven Bluff site holds the significance that Hedman thinks it does, the site's steady accumulation of soil over hundreds and thousands of years may prove nearly as important as the rich collection of artifacts he's already finding.

That's because the frequent and thick buildup of soil helps establish the order in which artifacts were deposited at a site. This is especially true in Alaska, where the seasonal freeze-thaw cycle can move artifacts and other material out of sequence as they go up and down through the soil column.

The next and critical step—determining the age of soil layers and the artifacts found in them—requires recovering bone or other organic material, often charcoal, from the soil. These items can be analyzed

— *continued on page 13*

Craig McCaa

Volunteer Kris Hedman records soil layers in a pit excavated at Raven Bluff.

Craig McCaa

Archaeologist Bill Hedman inspects a stone flake he found on the tundra near the Raven Bluff site.

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American Recovery & Reinvestment Act

ALASKA STIMULUS PROJECT

First BLM-Alaska ARRA Project Completed

Fairbanks Boy Scout Troop 38 contacted the BLM's Glennallen Field Office this summer, offering to volunteer for a project that would help one of their scouts fulfill his Eagle Scout requirements.

Scouts age 11 to 17, with family members and chaperones, joined Glennallen Field Office recreation staff and other volunteers to tear down and replace the old wood footbridge at Paxson Lake Campground and widen and gravel the adjoining foot trails. Their work improved access between two loops within the popular campground and across a creek ravine. The troop traveled more than 200 miles over two weekends to do the work. BLM-Alaska State Engineer Curt Fortenberry organized the scout involvement and procured the fiberglass bridge kit.

The footbridge replacement was an Alaska Trails Restoration and Rehabilitation project funded under the American Recovery and Reinvestment Act of 2009 (ARRA) and is the first ARRA project to be completed by BLM-Alaska. *(Photos by Marcia Butorac and Glennallen Field Office recreation staff)*

The old bridge was rickety and narrow. Boy scouts, staffers from the Glennallen Field Office, and other volunteers tore it down and replaced it with a new fiberglass bridge.

The project helped Scout Ross Brouillard *(above)* **complete his Eagle Scout requirements.**

Find out more at http://www.recovery.gov

Red Devil Mine Projects Begin

BLM-Alaska has begun two new environmental projects at the Red Devil Mine, an abandoned cinnabar mine and mercury production facility on the Kuskokwim River.

The lands encompassing the Red Devil Mine have been selected for conveyance to The Kuskokwim Corporation (surface estate) and Calista Corporation (subsurface estate) as part of the Sleetmute Village townsite selection under the Alaska Native Claims Settlement Act. The BLM will be able to convey these lands once remediation has been completed.

The mine is located on the south bank of the Kuskokwim River, approximately 1.5 miles upstream from the village of Red Devil and approximately 8 miles downstream from the village of Sleetmute.

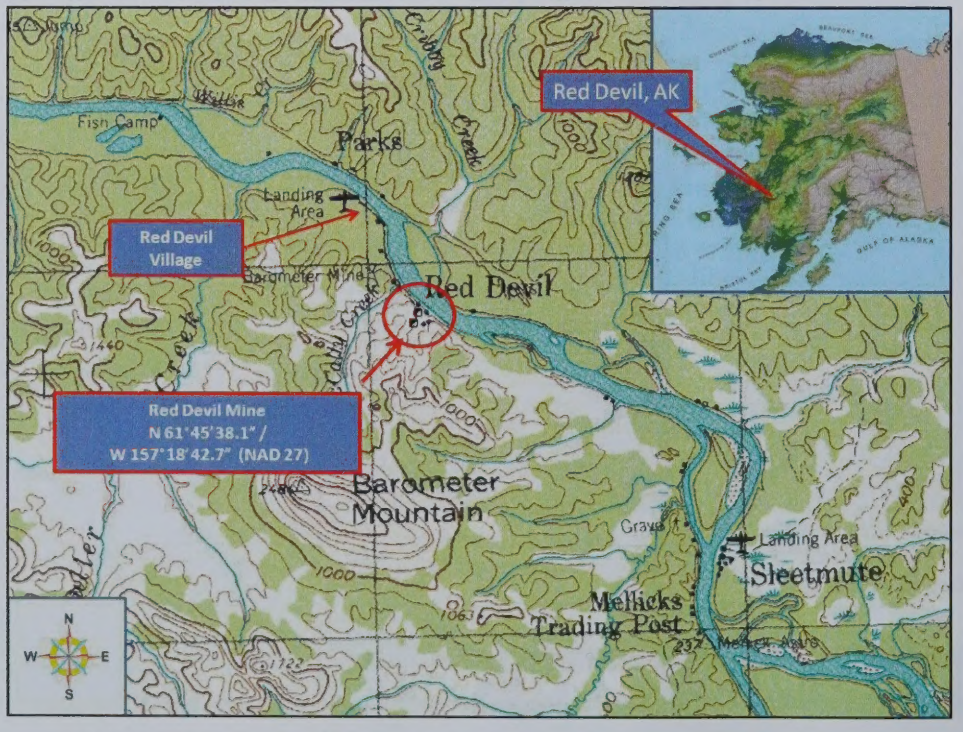
The Red Devil Mine is one of many cinnabar mines that once operated in Alaska. The mine operated from 1939 until 1971 and was a world-class producer of mercury. Since 1987 the mine has been the subject of numerous environmental investigations and cleanups.

Red Devil Mine 2004

Mining Impact Project

The BLM is continuing its investigation of contamination remaining at the mine in coordination with the Alaska Department of Environmental Conservation. The BLM is contracting a remedial investigation and feasibility study of the mine site in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The investigation will characterize the site, determine potential risks the site may have on human health and the environment, and identify what needs to be done to mitigate those risks.

Potential contaminants of concern at the site include mercury, antimony, arsenic and lead from mine tailings and the mercury production process. Other hazardous substances may be added to this list as the investigation progresses. The BLM anticipates the investigations will continue through 2011, with appropriate remediation taking place after that.



Petroleum Response Project

The BLM has contracted with Marsh Creek, L.L.C., to investigate and clean up fuel that spilled from the mine's fuel storage and distribution system. This project is funded by the American Recovery and Reinvestment Act. The ADEC is providing regulatory oversight for the petroleum cleanup.

Community Involvement

During these projects, the BLM will conduct a range of community involvement and awareness activities, including meetings in Anchorage and at locations near the Red Devil Mine. The BLM is developing a community involvement plan that will identify those activities in more detail.

The BLM Anchorage Field Office is also encouraging people to submit comments about the projects. For information, contact Jim Fincher, 1-800-478-1263, e-mail at ak_anchorage_fo@blm.gov, or visit the Web site http://www.blm.gov/ak/st/en/fo/ado/hazardous_materials/red_devil_mine.html

—Larry Beck

A Refuge from the Storm

Travelers along the remote Big Yetna stretch of the Iditarod National Historic Trail now have a safe place to take shelter from extreme winter weather or whiteout conditions, thanks to a creative partnership between the Iditarod Alliance, the City of Shageluk, the State of Alaska, and the BLM.

The Big Yetna safety cabin is between Iditarod and Shageluk, along the Iditarod-to-Anvik section of the trail. Safety cabins provide emergency shelter when needed, especially for subsistence and recreational users along the important trail routes between villages.

The Big Yetna 16x16-foot emergency shelter cabin is built from natural spruce and features a six-foot porch, sleeping platforms, wood stove and outhouse. The cabin is open to the public for emergency use—no lock on the door and no reservations needed—from October to April each winter.

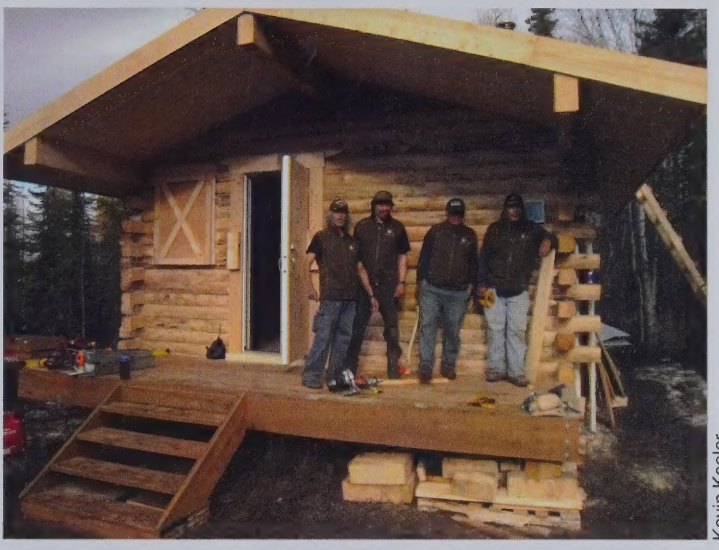
The partners who made this cabin possible are proud of the group effort. Perhaps no one has more reason to be proud than the four hard-working carpenters of Shageluk who were hired to raise the emergency shelter cabin. Edward Hamilton, Arnold John, Ralph Woodford, and Tony Fairbanks put in long days in September to complete the cabin before winter's arrival.

Edward Hamilton said he welcomed the opportunity to broaden his carpentry skills during the project. "It was a fun experience. It feels good to know I helped build a cabin like that." Hamilton says more villagers will now use the trail, secure in the knowledge that there is a warm cabin to take shelter in when needed during winter travel.

This cabin was not built with American Recovery and Reinvestment Act funds, but the BLM has received these funds to build more safety shelters along the Iditarod Trail in 2010. The Big Yetna safety cabin will serve as a prototype for the additional shelters for the Yukon-Kuskokwim Region of the Iditarod National Historic Trail. The safety shelters will be strategically placed along the trail to provide a safe haven for people seeking shelter from extreme winter weather conditions. These projects will also bring economic benefits to local communities by employing residents to construct the shelter cabins.

That's good news for communities along the Iditarod Trail and to anyone who travels the trail during Alaska's long winters.

— Teresa McPherson
Teresa_McPherson@blm.gov



Kevin Keeler

Shageluk carpenters helped build the Big Yetna Safety cabin.

Improving Summit Trail:

White Mountains National Recreation Area

Craig McCaa

Keith Ginn, USFS

(Far Left) **Hikers on a newly improved section of the Summit Trail. The trail was ditched and elevated through a boggy area instead of using wooden boardwalk, which is expensive to build and maintain.**

(Left) **BLM-Alaska Eastern Interior Field Office Outdoor Recreation Planner Tim DuPont removes rotting boardwalk in preparation for upgrading a section of the Summit Trail in the White Mountains National Recreation Area.**

Glennallen Has a New Field Manager

Ruth McCoard

Beth Maclean, Anchorage District program analyst, is the new Glennallen Field Manager.

Beth earned her bachelor's degree in geology from Macalester College and a master's degree in geology from the University of Alaska Fairbanks. She has worked for BLM-Alaska for 11 years, starting her BLM career in the Student Career Experience Program in Fairbanks working on Native Allotments. She moved to the Alaska State Office in Anchorage as a geologist dealing with oil and gas rural energy issues, and also conducted Alaska mining evaluations.

As the BLM Glennallen Field Manager, Beth will oversee six million acres of BLM-managed public lands and resources in eastern Alaska. These lands include the popular Gulkana National Wild River and Delta National Wild, Scenic and Recreational River systems. Beth will also manage an extensive federal subsistence program. She is looking forward to working with the staff at the field office and the people of the Copper River Basin, and overseeing long-term planning efforts, such as implementation of the East Alaska Resource Management Plan and the Gulkana River Management Plan. Beth is enthusiastic about her new position and living in the greater Copper River Valley, and sees this as a tremendous opportunity.

— Marnie Graham contributed to this story

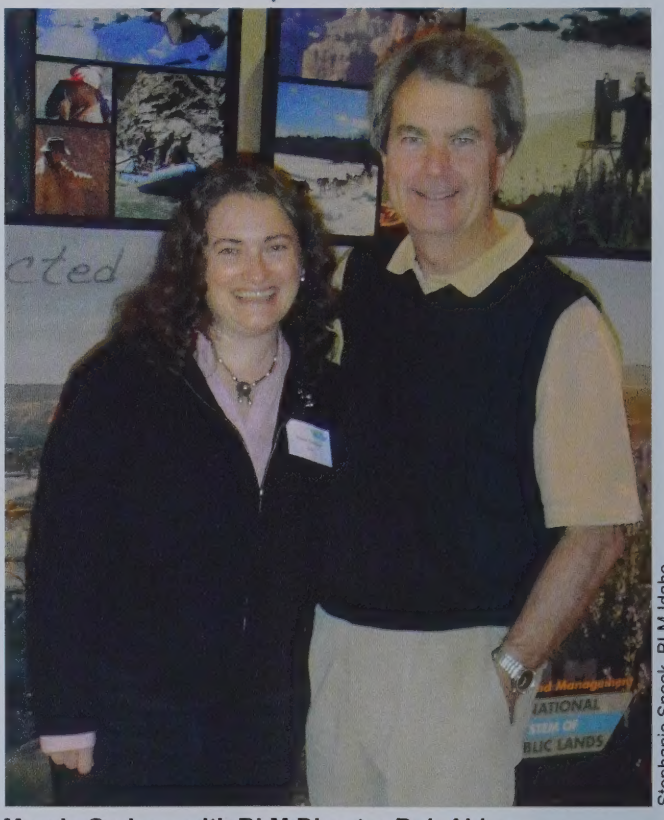
Marnie Graham: Connecting to the Community

Marnie Graham is the U.S. Department of the Interior's 2009 Diversity Champion for all of the BLM. Marnie is a public affairs specialist at the BLM Glennallen Field Office, where she has worked for the past five years. Her coworkers and Copper River Basin communities feel there is no one else quite like her. Marnie's enthusiastic introduction of new ideas, consistent recognition of others' achievements, and selfless attitude of service have brought about permanent and positive changes in her field office and the local communities.

An innovative risk taker and passionate environmental educator, Marnie has challenged her field office and surrounding Copper River Basin communities to a higher level of involvement in protecting and nurturing the natural environment and the area's cultural heritage, whether volunteering at the local recycling center, National Public Lands Day, or other programs.

"I love working for the public," Marnie explains, "connecting talented people with the needs of the community." Marnie said that she had lived in the Copper River Basin for 10 years, working with nonprofits and the school district, before she was hired by the BLM.

Marnie has fostered a desire in the next generation to look outside of themselves. She helped create a popular All-Terrain Vehicle (ATV) safety and trail ethics training program for a local 4-H youth group using an innovative approach from Project Learning Tree, the American Forest Foundation's environmental education program. This



Stephanie Snook, BLM Idaho

Marnie Graham with BLM Director Bob Abbey.

— continued on page 7

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Chad Cook

Marnie Graham at National Public Lands Day, 2008.

approach helps students learn how to think, not what to think, about their environment. Marnie taught the high school youth how to train the younger children in the program about ATV safety, trail ethics, and sustaining the trails.

Marnie also works with the community to coordinate educational programs for homeschoolers and classrooms, including programs about archaeology and the area's cultural heritage. This summer, she was part of the team conducting the Copper River Watershed Stewardship Program that sponsored 10 students for a week of rafting the river and learning about the Copper River watershed.

"When I started working for the BLM, I immediately saw the incredibly talented and skilled BLM staff as an untapped asset to the community," Marnie says. "People often do not know what strengths they possess and what they can offer. I think where I have been successful is to match great projects and needs with great people! I certainly didn't do all of this myself. I just helped people see what is possible!"

Marnie has been instrumental in guiding the process of signing memoranda of agreement for projects that involve most of the Alaska Native villages in the area. Her spirit of inclusion has moved the field office in a positive direction in consultations with the Native villages, and she worked closely with Native village representatives on unique designs for several interpretive trailhead signs. These signs contain general trail information and the cultural history of the trails.

Marnie initiated an annual National Public Lands Day event and worked to educate people about the importance of caring for public lands. She has recruited 20 to 40 volunteers for local National Public Lands Day projects, including cleaning up scenic highways or pulling invasive weeds from BLM campground areas. This year's event cleared two tons of waste from an unauthorized use site on the Trans-Alaska Pipeline System right-of-way. Marnie recruits volunteers of all ages and walks of life, and some volunteers have made it an annual commitment. When it is time for Public Lands Day, a rallying cry echoes throughout the field office: "It's your land, lend a hand!"

The Glennallen Field Office recently mentored a young woman with multiple sclerosis in its temporary employment program. Marnie's positive attitude and approach to the student's workload helped this student evolve into a confident woman in the workplace, enthusiastically tackling her tasks and exceeding her own expectations. In the process, Marnie helped the field office staff embrace diversity and uniqueness in new and positive ways.

People marvel about how Marnie is usually the unsung heroine, a quiet leader behind the scenes who gets things done and makes a huge difference in most aspects of her work and life. She's most comfortable giving others credit, and rarely realizes the impact she makes. Marnie's passion, enthusiasm, leadership, commitment to public service, love of the natural environment and cultural heritage, positive attitude, ability to communicate new ideas, and ability to take on tough assignments – all this and more is why Marnie Graham is the BLM's Diversity Champion.

—Ruth McCoard, Danielle Allen and the Glennallen Field Office contributed to this story

Rick Lewis, National Park Service

Secretary of the Interior Ken Salazar speaks at the award ceremony in Washington, D.C. Marnie Graham is seated in the front row.

Working from the Heart

Ten Seasons and 13,000 Volunteer Hours

Jim and Cathy Leonard came to Alaska 10 years ago mainly to be near family. To stay busy, they became volunteer Campground Hosts at BLM's popular Sourdough Creek Campground. They soon fell into the pattern of summers on the banks of the Gulkana National Wild River and winters in Brownsville, Texas. Since that time, the Leonards have come to think of Alaska as their home. Their familiar faces and quality volunteer service greet 15,000 to 20,000 campground visitors annually.

Each year, the Glennallen Field Office hosts an end-of-summer-season barbecue to recognize BLM summer seasonals and their work. This year's event included a special award ceremony recognizing the Leonards for their decade of outstanding service. Cathy Leonard was surprised to learn that she has volunteered more than 10,000 hours during the past 10 seasons. Jim was equally stunned to discover that he had volunteered over 3,000 hours before he was hired as the Glennallen Field Office seasonal facilities maintenance worker in 2003. Their combined 13,000 volunteer hours (1,625 eight-hour days or about 232 weeks) are attributable to Jim and Cathy's incredible work ethic, commitment, and love of working with the public.

On presenting their awards, Will Runnoe, then Glennallen Field Manager, said, "Our volunteers and seasonal employees are vital to this organization. We couldn't possibly accomplish our annual goals without the dedication and work ethic that people like Jim and Cathy contribute. It is an incredible honor to have the opportunity to recognize them for their volunteer public service. Our office cannot thank them enough."

As for the Leonards, they plan to return to Sourdough Creek Campground again next summer. What began as their one-time Alaska adventure, has become a way of life.

The BLM welcomes volunteers from all walks of life: whatever your interest, there's a volunteer opportunity to match. What a great chance for families to come together with a purpose! In addition, volunteering for public lands just got more rewarding. Check out the 'America the Beautiful' Volunteer Pass available on the Web site listed below. For information on volunteering with BLM-Alaska, contact volunteer coordinator Eugene Ervine (eugene_ervine@blm.gov) or visit:

http://www.blm.gov/wo/st/en/res/Volunteer.html

Marnie Graham

Cahd Cook

(Above) **Volunteer Campground Host Cathy Leonard (wearing a BLM hat), gives National Public Lands Day youth volunteers a tour of the accessible fishing area at Sourdough Creek Campground.** *(Left)* **Jim Leonard removes an abandoned barrel from the bank of the Maclaren River, Denali Highway, Alaska.**

JOB CORPS STUDENTS LEND A HAND AT CAMPBELL TRACT

When BLM Anchorage Field Manager Jim Fincher visited the Alaska Job Corps Center in Palmer last August, he saw a great opportunity for the BLM. Within a month, two Job Corps participants were busy at work on the trails and facilities at the BLM's Campbell Tract in Anchorage. While the two young adults received work-based job training, the 730-acre Campbell Tract benefitted from nearly 500 hours of enthusiastic volunteer labor with tasks ranging from trail compacting to welding.

Eighteen-year-old Jake and 21-year-old Lisa worked full time at the BLM Campbell Tract for six weeks this fall. As students in the Job Corps construction program, Lisa and Jake were trained as heavy equipment operators. They brought their training to the BLM, where they refined their skills and gained actual work experience doing facilities maintenance and trail work.

Jake, originally from Fairbanks, hopes to eventually work as a crane operator at the Port of Anchorage with the International Union of Operating Engineers Local. Jake's grandfather and great-grandfather were both crane operators, so it's no surprise that his favorite part of the job at Campbell Tract was operating a variety of heavy equipment to move earth, grade roads, and compact trails.

Lisa is originally from Bethel. She also hopes to land a union job doing heavy equipment work. "I have a job interview with the Union next month," she shared recently. She'd like to work construction jobs across the state, using her training and skills to help improve Alaska's infrastructure at both urban and rural job sites.

Jake operating a Bobcat.

Doug Ballou

These ambitious young adults are preparing to enter the workplace with real world experience, thanks to the Alaska Job Corps Center and their time at the BLM's Campbell Tract.

Municipality of Anchorage Parks and Recreation Trails Planner Holly Spoth-Torres offered kudos to a cooperative trail project that used Lisa and Jake's skills. "There aren't enough words to express the value of agency partnerships like this one," Spoth-Torres said. "Many thanks to all of you who went beyond borders to improve public lands and trails in Anchorage."

The BLM Anchorage Field Office intends to partner with the Job Corps Center to use other students in the near future. The Alaska Job Corps Center provides youth from 16 to 24 years old with career and technical education and training in the fields of business and technology, construction, culinary arts, and health and community services.

Anchorage Field Office Manager Jim Fincher believes the BLM's partnership with the Alaska Job Corps Center is a win-win. Lisa and Jake agree.

—Teresa McPherson
Teresa_McPherson@blm.gov

Doug Ballou

(Left) **Close up of Lisa in the driver's seat.** *(Below)* **Lisa operating a grader.**

Doug Ballou

Iditarod National Historic Trail Exhibits at the State Fair!

For the first time, visitors to the historic Wineck Barn at this year's Alaska State Fair could stroll through displays recounting the rich history of the Iditarod Trail, talk with Iditarod mushers, and learn about the Iditarod Centennial celebration that continues through October 2012. According to all involved, the Iditarod exhibit was a great success. Nearly 300,000 people attend the fair annually. The BLM-Alaska co-hosted the exhibit with the Iditarod Historic Trail Alliance, Chugach National Forest, and other Centennial Partners. *(Story and photos by Kevin Keeler and Teresa McPherson)*

Moose - More Than Heliport Hazards

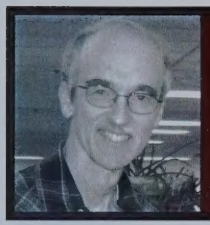
Dave Doucet

Watch out! These pictures, taken by Alaska Fire Service's Southern Zone helicopter manager Dave Doucet, are a good reminder that wild animals go wherever they want. Doucet saw these bull moose tussling on the BLM's Campbell Tract Facility helipad in October during the fall rutting season. There are about 1,600 moose within the Anchorage city limits, and many roam the woods and trails of the BLM's Campbell Tract.

BLM-managed public lands offer a myriad of outdoor recreational opportunities, and it's possible to encounter wild animals such as moose, bear, coyotes, lynx or wolves. If you do see wild animals, keep these safety tips in mind. Be aware of your surroundings, especially if you are in tall, dense brush or near a stream. If possible, travel in groups; make noise (sing, talk, or wear a bell) and always keep dogs on a leash. If you see a moose or bear, make noise and give the animal plenty of room. Never approach moose or any other wild animal. And remember to have your camera ready!

— Pam Eldridge
Pam_Eldridge@blm.gov

Dave Doucet

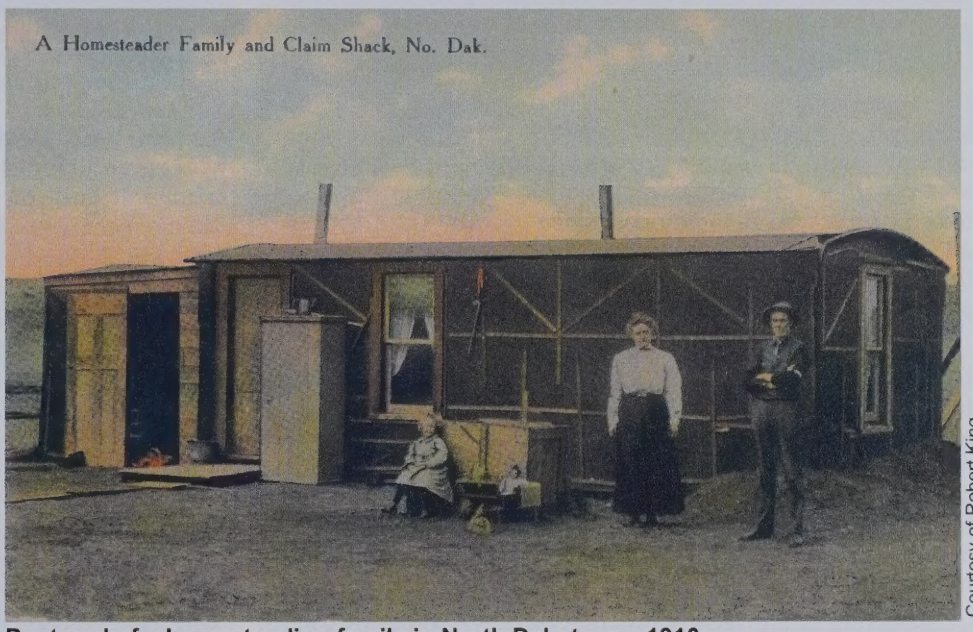


Journey into Alaska's Past

with BLM-Alaska Archaeologist Robert King

Climate Change Legislation in the 19th Century?

Today, Alaska is one of the most-watched locations in the world for people trying to understand the effects of global warming and climate change. Studies are suggesting that changes in Alaska's climate may be occurring at a rate faster than in regions closer to the equator. Legislation pending before Congress today aims at addressing this issue by limiting "green house gases." If successful, the legislation would, in effect, modify Alaska's future climate. Is this the first time that legislation has been proposed that would modify future climate? Most people would guess "yes," but the real answer is "no." Surprising to most people, climate change legislation was not only proposed in the past, but actually passed into law! It happened in 1873, just six years after Alaska became part of the United States. In this earlier case, it wasn't Alaska in the spotlight, but rather the central portion of the United States. Here's the story ....



Courtesy of Robert King

Postcard of a homesteading family in North Dakota, ca. 1910

In 1862, President Abraham Lincoln signed the Homestead Act, which encouraged settlement in the American West. The Act gave settlers (both men and women) the opportunity to receive title to 160 acres of "free" undeveloped and publicly owned land after first paying minimal filing fees and meeting certain conditions. The conditions included living on the land for five years, establishing a dwelling, and farming the land. Homesteading was a way to provide economic opportunities to millions of Americans and foreigners willing to become citizens. It would also help railroads gain more traffic and create new businesses to serve new customers as they populated "uninhabited" areas of the nation (without regard to the prior use and occupancy of the land by Native Americans). Among the areas open for homesteaders were hundreds of millions of acres of land on the Great Plains. As the first homesteaders moved into this region, they soon faced problems that led to America's first major legislative attempt to solve a climate issue.

The 1862 Homestead Act was modeled for Midwestern lands that had sufficient moisture, allowing farms of that size to be economically viable. But starting at about the 100th meridian (roughly the western parts of North and South Dakota, Nebraska, Kansas, Oklahoma and Texas) and moving west to the Rockies, the annual precipitation decreased to under 15 inches per year and the land became increasingly arid. Traditional 19th century farming methods, using only rainfall and surface water, made farming those regions marginal and unpredictable. The result was a decrease in crop yields per acre, often making a 160-acre homestead claim inadequate for making a living. Most early homesteaders of the Great Plains faced this reality, and as their stories became known, Congress tried to help.

One attempted solution was the passage in 1873 of a law entitled: "An Act to Encourage the Growth of Timber on Western Prairies," or more commonly, the "Timber Culture Act" and its amendments in 1874 and 1878. The Timber Culture Act legislation made it possible for homesteaders to apply for up to 160 additional acres of land if at least one-fourth of those acres were planted in trees for 10 years (amended down to eight years in 1874). Unlike homesteading, the Timber Culture Act claimants did not have to live on the land.

Further, the 1873 Timber Culture Act allowed homesteaders who were "proving up" (meeting the

— *continued on page 12*

conditions of the Homestead Act) on their prior-filed 160-acre parcel the ability to get title to those parcels in three years instead of five, if they planted 10 acres of trees. The Timber Culture Act's advocates hoped that the legislation would not only increase the supply of wood in treeless areas, but also increase rainfall and even moderate climate extremes. At that time, some scientists believed that more rain could be induced to fall into dry areas if trees were planted there. Others felt that plowing up the thick sod of the Great Plains' grasslands would cause higher precipitation because any rainfall would evaporate faster without the sod and go right back into the atmosphere, prompting more rain to fall.

The timber culture laws resulted in very little additional permanent tree growth on the Great Plains. Instead, the laws were too often used to gain ownership of public land in non-arid areas without living on it. This was possible due to imprecise wording in the original law that allowed it to be used more broadly than intended for all federally managed public lands – even those lands already with trees where planting a few more would be easy, but pointless.

Starting in 1878, an amendment to the Timber Culture Act required claimants to verify in writing that the land was "exclusively" prairie land "devoid of timber" and "not for the purposes of speculation." This amendment helped decrease abuses, but even then successful completion of the tree-cultivation requirements proved more difficult than expected. Of the nearly 260,000 claims entered under the 1873 Timber Culture Act and its amendments, only about one-fourth were patented.

Reacting to the disappointing results and continuing abuses, in 1891 Congress repealed the timber culture laws of the 1870s. No longer could people file new claims under them. But persons who had begun claims under the acts, and who had "in good faith" complied with their terms for at least four years, were given the opportunity to purchase the land at $1.25 per acre. And by this time in some areas that also was a great bargain.

Courtesy of Robert King

Postcard of typical claim shack near Chinook, Montana, ca. 1907

Overall, the 1873 Timber Culture Act, arguably America's first legislative attempt in part to bring about widespread climate change on the Great Plains, was a failure. It had the unintended consequence of allowing too many settlers (and speculators) to gain title to public land in non-arid areas without settling on the land. And it had not solved the key problem of a lack of timber on the Great Plans, nor had it induced increased rainfall from hoped-for forested lands that never happened. Indeed, as much as we have learned about climate in over a century since the passage of the timber culture acts of the 1870s and their repeal in 1891, trying to solve climate problems by legislation is still not an easy proposition.

By early 1900, long after legislation was attempted (and abandoned) to "fix" the lack of rain on the Great Plains, farming was still marginal in many areas. While in western Nebraska some homesteaders were able to drill wells, in other places in the Great Plains states wells were unsuccessful. Many homesteaders abandoned their claims during an extended drought beginning in the mid-1910s and lasting into the 1920s. Some of the public lands managed by the BLM today in eastern Montana are failed homesteads of this period

—Robert King
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Courtesy of Robert King

Postcard of a Western Nebraska homestead "Soddy," ca. 1908

DREAM DIG SITE— *continued from page 2*

with Carbon-14 dating. Here too, the Raven Bluff site is proving unusually rich.

That quickly became apparent to Steve Kuehn, an archaeologist with a research interest in animal bones. Kuehn traveled to the Raven Bluff site from the University of Illinois at Urbana-Champaign to volunteer on Hedman's crew last summer. He found the bone to be in surprisingly good condition for its age.

"Preservation of bone at this site was exceptional, especially for the North Slope," Kuehn says. "To get caribou bone that's potentially 10,000 years old...that's great!"

Kuehn and his fellow volunteer and colleague Kris Hedman, a University of Illinois anthropologist—and not coincidentally Bill Hedman's older sister—saw that material firsthand this summer as they meticulously excavated several deep pits and sifted the soil through screens, looking for the most minute flake or bone chip.

Craig McCaa

Kevan Cooper carefully sifts and inspects every bit of excavated soil for artifacts, pieces of bone and other items at the Raven Bluff site.

For Kris Hedman, Raven Bluff was a far cry from her usual urban sites, some of which are in sketchy areas where working after dark is dangerous. Above the Arctic Circle in July and August, neither darkness nor crime posed problems for her at Raven Bluff, although she and the rest of the crew faced cold and gusty winds, bears, mosquito swarms, and thick smoke from distant wildland fires. All of these Hedman took in stride.

Her only complaint? "My brother promised me an electric fence around my tent for bear protection!" she says with a laugh. (The bear fence instead protected the cooking and food storage tent.)

Her brother Bill is still awaiting results from laboratory analysis of artifacts found this summer even though early indications suggest that Raven Bluff and its thick layers of soil hold important information about a human presence in North America.

Raven Bluff indeed appears to be an archaeologist's dream site.

— Craig McCaa
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Resolved: Unauthorized Use Cases

Marnie Graham

BLM staff tear apart and remove a collapsed and gutted trailer left abandoned along an unnamed creek.

Imagine the work involved in removing more than 60 tons of metal, wood debris and trash left abandoned on federal public lands. That's what the Glennallen Field Office did this summer, as the office mitigated 77 cases of unauthorized use within the East Alaska planning area. Resolving the cases ensures that land titles can be conveyed free of encumbrances to the State of Alaska under the Alaska Statehood Act. A few cases involved unauthorized cabins, and the field office worked with the Alaska Department of Natural Resources on a case-by-case basis to determine options available to authorize existing cabins under state regulations. An additional 30 unauthorized sites in the planning area are slated for mitigation and removal during the summer of 2010.

The East Alaska Resource Management Plan covers 5.3 million acres managed by the Glennallen Field Office, interspersed among lands managed by Alaska Native regional and village corporations and the State of Alaska. The planning area is bisected by the Trans-Alaska Pipeline and includes two designated wild and scenic rivers, the Bering Glacier, and the Denali Highway.

— Marnie Graham
contributed to this story

Marnie Graham

BLM staff load metal scraps from collapsed trailer into an ATV to haul away.

THE FIERY SEASON OF 2009

Alaska Fire Service

Minto Flats South Fire, west of Nenana

It was a fiery summer in Alaska for personnel fighting wildland fires. By Oct. 23, 522 wildland fires burned 2,951,582 acres across Alaska, making 2009 the ninth largest season for acreage burned since recordkeeping began in 1939 (the 2004 season was the largest, and 2005 was the second-largest). Of this year's wildland fires, 320 were human-caused, 160 were lightning-caused, 14 were prescribed burns, and the rest were "wildland fire use" fires that start as wildland fires but are managed for resource benefits.

The Alaska Interagency Coordination Center at the BLM Alaska Fire Service in Fairbanks compiles wildland fire statistics on a calendar year basis, starting on Jan. 1 and ending Dec. 31. The "official" wildland fire season in Alaska starts on April 1, extends into the fall, and generally ends when the last fire is called "out." You can visit the center's Web page and find the statistics and much more. http://fire.ak.blm.gov.

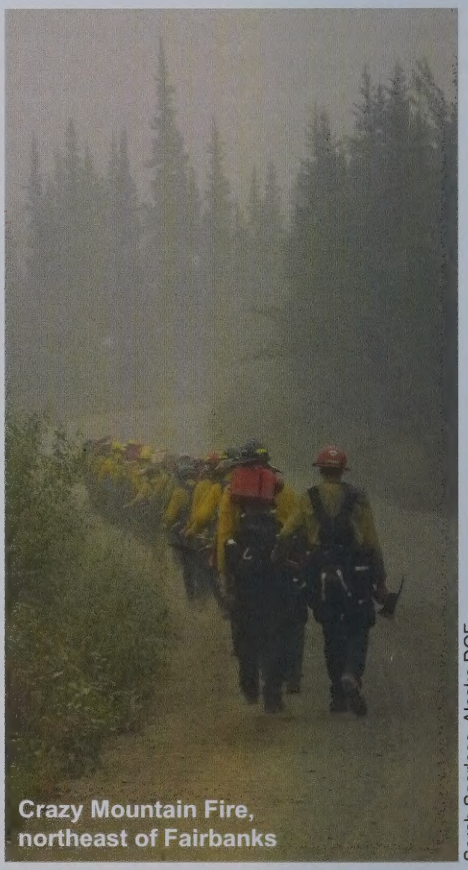
—Doug Stockdale
doug_stockdale@blm.gov

Alaska Fire Service

Smokejumper cargo chute near Rex Creek Fire, north of Healy

Mike Ferris, USFS

Briefing for the Shanta Creek fire, Soldotna



Sarah Saarloos, Alaska DOF

Crazy Mountain Fire, northeast of Fairbanks

Mike McMillan, AFS

Evergreen Air 747 Supertanker Drop demonstration

Mike Ferris, USFS

Hotshot firefighter line gear for the Shanta Creek fire, Soldotna

Improving Trails at Campbell Tract

On Sept. 26, National Public Lands Day, 130 volunteers completed 10 projects at the BLM Anchorage Field Office's Campbell Tract. The volunteers did trail maintenance, litter pickup, weed pulls, landscaping and revegetation, painted fences, split or stacked firewood for the biomass project, and other work throughout the 730-acre tract. Groups volunteering included Girl Scouts, Boy Scouts, Community Work Service, Alaska Native Plant Society, Single Track Advocates and Municipality Trail Watch volunteers. Friends of the Campbell Creek Science Center provided music, pizza, passport game prizes, and more during the morning work and afternoon open house at the Science Center.

—Teresa McPherson
Teresa_McPherson@blm.gov

Thom Jennings

Thom Jennings

Volunteers spent the day working on trails, fixing fences, installing posts, and removing dry brush and small dead trees despite the wet weather at Campbell Tract in Anchorage.

Removing Trash Along the Tiekel River

Marnie Graham

Marnie Graham

(Top) **Area before clean up.** *(Above)* **Truckload of trash removed from the site.**

On Sept. 26, National Public Lands Day, the BLM Glennallen Field Office led volunteers in a massive cleanup of trash from an unauthorized use site within the Trans-Alaska Pipeline Utility Corridor. They removed more than two tons of trash from the site along the Tiekel River. Some volunteers traveled up to 200 miles to work at the event, and several volunteers have participated every year since the Glennallen Field Office began coordinating Public Lands Day events five years ago.

—Marnie Graham
Marnie_Graham@blm.gov

National Public Lands Day
A National Environmental Education Foundation Program

10th Anniversary of the National Landscape Conservation System

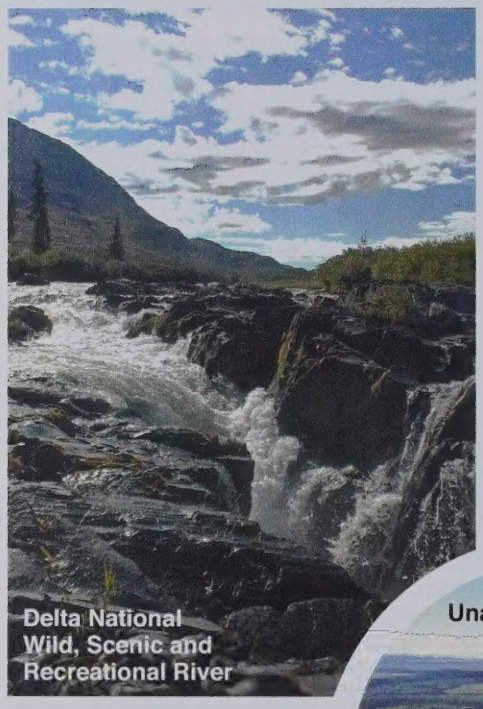
taking the path less traveled...

In 2010, the BLM is celebrating the Tenth Anniversary of the National Landscape Conservation System. In Alaska, the BLM manages nine components of the system: six wild, scenic and recreational rivers, a conservation area, a historic trail and a wilderness study area. Look for special events celebrating this anniversary in future issues of Frontiers as the BLM conserves and protects these special areas.

Birch Creek National Wild River

Iditarod National Historic Trail

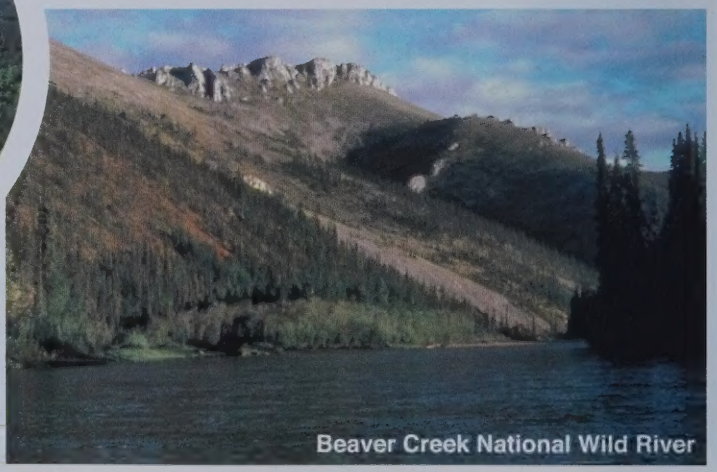
Gulkana National Wild River


Delta National Wild, Scenic and Recreational River

Fortymile National Wild, Scenic and Recreational River

Unalakleet National Wild River

Steese National Conservation Area


Beaver Creek National Wild River

FRONTIERS Flashes

News from around Alaska

Marnie Graham

Youth Learn about Copper River Watershed

In late July, the Glennallen Field Office used a "Take it Outside" grant to join other sponsors for a 10-day environmental field course that included a five-day raft trip for 10 local "stewardship ambassadors," (shown left) ages 14 to 17. The students from the Copper River Basin and the Copper River Delta actively explored their surroundings to learn about the history, ecology and future challenges facing the watershed and the wild salmon upon which they and their communities depend. The students kept journals and created slide shows, videos, podcasts, educational displays, and a movie (to be entered in film festivals) to document their experience. Local newspapers published feature stories and photos.

Craig McCaa

Steele Creek Roadhouse Stands Tall Again

All together now! Volunteers from the Teacher Restoration Corps winch the leaning Steele Creek Roadhouse closer to vertical during a stabilization project in early July. Six volunteers joined US Forest Service Preservation Specialist Doug Stephens and BLM Eastern Interior Field Office employees in stabilizing the historic building on the Fortymile River. The volunteers corrected most of the building's lean through a combination of winching and replacing rotten logs at the base of the walls. Further work will be completed next summer. According to crew leader and Teacher Restoration Corps CEO Dave Dobkoski, "There's not many people who will go out and preserve historic structures for no pay. We're a strange breed, but we do have fun!"

Marnie Graham

Copper River Basin Students Study the Past

The **BLM Glennallen Field Office** introduced archaeology to home-schooled students from the Copper River Basin on Oct. 26. The series of three presentations were tailored for different age groups. The students learned the difference between paleontology and archaeology, and focused on how Alaska discoveries shape our current understanding of the world.

BLM Archaeologist John Jangala with homeschoolers.

Delta River Portage Improvements

Over the past two summers, nearly 20 volunteers from the American Hiking Society's Volunteer Vacations and the Student Conservation Association traveled to Alaska to help the BLM Glennallen Field Office improve a half-mile portage along the Delta National Wild, Scenic and Recreational River. The volunteers replaced aging steps and water bars with natural, native materials along the portage walkway; removed crowding trail vegetation; and rearranged heavy boulders and rocks to create a safer, more pleasant route through the half-mile portage for canoeists and other river travelers.

Boy Scouts Help with Revegetation Project

Over four days in August, an Eagle Scout candidate and his team of eight Boy Scouts constructed a fenced enclosure on the BLM Campbell Tract in Anchorage. The enclosure will be revegetated with native plants to improve species diversity, enhance the visual experience for adjacent trail users, and prevent moose from browsing that area. This project is part of a broader focus to decrease the impact of moose browse on young vegetation, discourage new trails, and create opportunities for youth interested in natural resources. Vegetation height within the enclosure will be monitored annually, and the fence and posts will be removed when the vegetation can thrive without protection.

 — *continued from page 17*

Tangle Lakes Trail Becoming A Reality

Thanks to hard work by the BLM's Glennallen Field Office and Student Conservation Association youth volunteer crews over the past two field seasons, the BLM's Tangle Lakes campground now has over 3,000 feet of sustainable hiking trail. The work is part of a plan to create a three- to four-mile loop trail that offers magnificent views of the Delta National Wild, Scenic, and Recreational River and the Alaska Range. In 2009, over 1,600 hikers used the new trail.

Chad Cook

Jack Wade Dredge History Preserved

The **BLM-Alaska Eastern Interior Field Office, the Fortymile Mining District, and the Alaska State Historic Preservation Office** recently completed a display of historic mining equipment in the community of Chicken. The equipment was salvaged from the Jack Wade Dredge, which was dismantled in 2007 due to public safety concerns. The dredge was freighted up the Fortymile River from Dawson during the winter of 1906-1907 and operated until 1941. Pieces of the dredge and interpretive panels are on display next to the Fortymile Mining District's ommunity building in Chicken.

Cory Roegner

BLM-Alaska Continues to Transfer Lands

Under the Alaska Native Claims Settlement Act (ANCSA), Native corporations are entitled to 45.4 million acres of federal public land. In 2010 the BLM will continue to work toward completing its land transfer obligations to the ANCSA village and Regional corporations. In doing so, the BLM will focus on meeting its yearly goals and in closing individual ANCSA village and regional corporation entitlements. The BLM will also continue to process and transfer title to the State of Alaska to satisfy the State's 104.5 million acre entitlement and to adjudicate to closure the remaining Native Allotment parcels. Transfer of a significant amount of land transferred has been accomplished by Interim Conveyances and Tentative Approvals. The BLM will patent the lands after the necessary survey is completed. Shown are photos from two of the patent signing ceremonies held in 2009.

Ralph Eluska

(left to right) **BLM Deputy State Director Ramona Chinn presents a Certificate of Fulfillment to Nancy Dushkin, President of Isanotski Corporation; Melvin Smith, Operations Manager of Aleut Real Estate L.L.C.; and Thomas Mack, President of the Aleut Corporation.**

Ralph Eluska

(left) **June McAtee, Vice-President of Lands and Natural Resources, Calista Corporation, looks on as Ramona Chinn holds a patent conveying lands in the Yukon-Kuskokwim River Delta and Kuskokwim Mountain to the corporation. The region's 56 villages based their land selections on importance to their subsistence economies. Slightly over 6 million acres of the region's total 7 million-acre entitlement are now conveyed to the Calista Corporation and the regional villages.**

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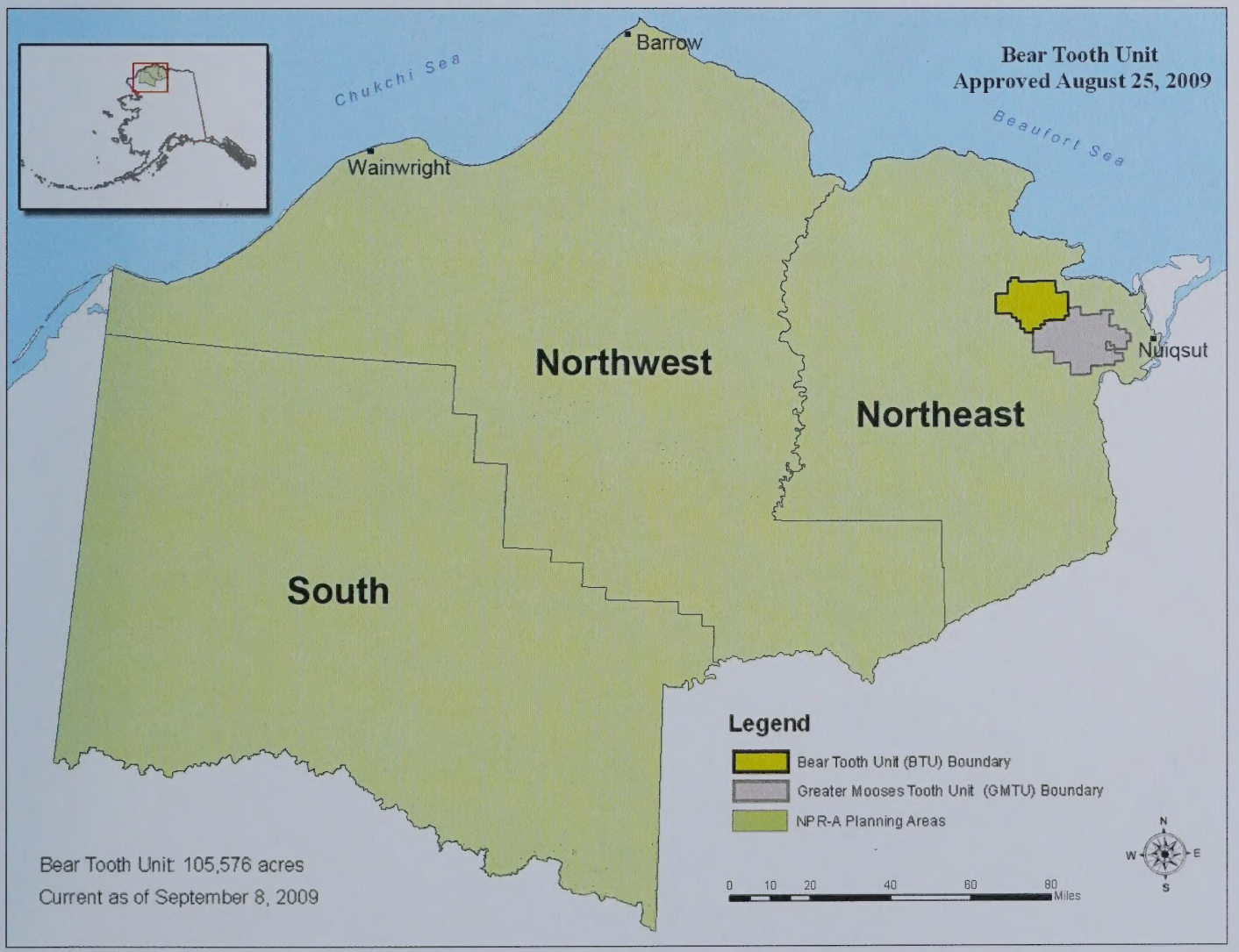
Frontiers Flashes — *continued from page 18*

Bear Tooth Oil and Gas Unit Approved for the National Petroleum Reserve-Alaska

In late August, the Alaska State Office approved the Bear Tooth Unit Agreement, its second oil and gas unit agreement in the National Petroleum Reserve-Alaska (NPR-A). The first NPR-A unit agreement was for the Greater Mooses Tooth in 2008. The Bear Tooth unit area includes 105,576 acres. The new agreement commits unit operator ConocoPhillips to an Initial Development Obligation of drilling and testing at least one exploratory well, and fracing and testing a previously drilled discovery well.



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BLM-ALASKA FRONTIERS... From the Managing Editor

Life hasn't slowed down for those of us working at BLM-Alaska. We're pleased to present the Fall 2009/Winter 2010 double issue of BLM-Alaska Frontiers. We have filled Issue #108 with glimpses of the many recent and current happenings.

Craig McCaa

The newly improved BLM Summit trail is ready for you! Look forward to more improvements with ARRA funding.

We're updating you on BLM programs for lands, energy, fire, planning, special events, awards, volunteers, partnerships, and much more. This is also an issue about possibilities – from last summer's field season to the many opportunities the American Recovery and Reinvestment Act (ARRA) funding will bring to the enhancement of public lands under BLM-Alaska management.

We hope you will enjoy reading this issue of Frontiers as much as we enjoyed putting it together for you. We also want to encourage you to visit our Web sites and the Recovery.Gov site to stay informed.

— Karen J. Laubenstein
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BLM-Alaska Frontiers

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